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Creating Pollution Prevention Incentives for Small Business: The Erie County program

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CREATING POLLUTION PREVENTION INCENTIVES FOR SMALL BUSINESSES: THE ERIE COUNTY PROGRAM

April, 1993
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FOR SMALL BUSINESSES:
THE ERIE COUNTY PROGRAM

Prepared for the Erie County Department of Environment and Planning, Office of Pollution Prevention
Erie County, New York

by

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SUMMARY AND RECOMMENDATIONS

The development of Erie County's Pollution Prevention Program demonstrates that small businesses can become active participants in pollution prevention, if they are given appropriate incentives. Creation of an appropriate mix of incentives to make pollution prevention an integral part of small business decision-making requires the assistance and cooperation of all levels of government, with each level undertaking those tasks it can perform most efficiently and effectively. Based on the experience to date in Erie County's program, the following division of roles and responsibilities for government seem best suited to provide the optimal mix of incentives for small businesses to adopt pollution prevention measures:

I. LOCAL GOVERNMENTS

Local government units that operate at the grassroots--towns, cities, villages, and single-purpose authorities such as sewer districts--are in the "front lines" of contact with potential clients for a small business pollution prevention program. From this position of frequent and intimate contact with businesses, they can provide three primary incentives for pollution prevention:

-- Local outreach. The fundamental prerequisite for an effective pollution prevention program is outreach--finding out who the potential client firms are, and getting them interested and involved in the program. Grassroots governments have daily contacts with small businesses, and these contacts create opportunities to inform potential clients about the existence of the pollution prevention program and the services it offers. Local industrial development authorities (IDAs), zoning and planning officials, and building inspectors are examples of local officials who are in a good position to help make the connection between the pollution prevention program and its client population.

--"Soft enforcement." Local governments do have some enforcement powers relevant to pollution prevention, but these powers tend to be "softer" than those exercised by state and federal governments: less formal, less coercive, more dependent on mutual problem-solving, negotiation, and conciliation. The staffs of publicly owned sewage treatment plants, building inspectors, local zoning and planning officials, refuse inspectors, and other similar local officers spend much of their time working with local businesses to secure compliance with public health, environmental, and safety codes. Most of this contact takes place in a cooperative, problem-solving atmosphere that is well suited to encouraging the client firms to seek technical assistance on pollution prevention.
Another advantage of "soft enforcement" at the local level is that contacts between regulator and regulatee are most frequent when the firm is expanding its operations or modifying its processes, which are ideal times to bring pollution prevention opportunities to their attention. Development approvals and state environmental quality review are two local land use controls that may be particularly valuable in identifying opportunities for pollution prevention.

**Information transfer.** Many effective pollution prevention actions involve relatively simple changes in housekeeping, work practices, or raw materials. Information about these pollution prevention techniques can be communicated directly from local government officials to target firms, without the need to involve expert pollution prevention specialists, if the local officials have been properly trained in pollution prevention.

II. COUNTY GOVERNMENTS

As middle-level governments encompassing a substantial geographic area and population, counties can play a key role in the design and operation of pollution prevention programs for small businesses. With a larger resource base and greater technical expertise, counties can perform some pollution prevention activities more effectively than the grassroots levels of government. At the same time, their familiarity with and involvement in the local community gives them some comparative advantages over state and national levels of government. Some of the structural advantages of county governments include the following:

**Regional outreach.** Some forms of outreach are most efficiently conducted at the county or regional level. Publicizing pollution prevention through general-circulation media, making contacts with trade and professional associations, distributing specialized newsletters, and providing displays and exhibits for trade fairs are examples of outreach activities that require substantial resources, or involve both local contacts, and economies of scale. As a result, they can be performed most effectively at the regional level of county governments.

**Needs assessment.** From its regional perspective, county government is also in a good position to develop a sophisticated understanding of the problems and opportunities confronting local businesses and industries. Through needs assessment, the county pollution prevention program can seek solutions tailored to local needs, and set priorities for use of limited resources.

**Technical assistance.** Some pollution prevention techniques require sophisticated understanding of industrial processes and pollution pathways. Engineers and other skilled professionals must be available, preferably on-site, to evaluate pollution prevention opportunities in these situations. For most small businesses and local industries, it is most efficient to provide most of this expertise at the county level.
-- Education and information exchange. Many counties are already involved in conducting training or informational programs for local businesses. Examples include "compliance promotion" to assist firms in meeting new environmental and regulatory requirements, training for the certification or re-certification of individuals handling hazardous materials such as pesticide applicators, and services to agriculture through cooperative extension programs. These existing county educational programs can easily be expanded to include pollution prevention.

-- Training for local government officials. When counties have developed expertise not only in the techniques and technologies of pollution prevention but also in conducting educational and training programs, they are well situated to train the "front line" local government officials who will be an important source of outreach, referral, and information transfer.

-- Regional policy development. Because of their strategic position between federal and state governments on the one hand, and local authorities and business on the other, counties are well situated to adopt and "customize" pollution prevention policy to regional needs.

-- Coordination between higher and lower levels of government. Counties are a key node in the communications network needed to spread and increase knowledge about pollution prevention. With both local knowledge and technical expertise, county pollution prevention staff can translate state and national program goals into concrete, meaningful local initiatives. They can also be an important source of feedback to higher levels of government, reporting on what is working well in pollution prevention and identifying areas where improvement is needed.

III. STATE GOVERNMENTS

With their broader geographic scope, greater financial and human resources, and superior ability to use coercive enforcement, state governments can undertake several kinds of programs to reinforce and extend the effectiveness of local or regional pollution prevention programs for small businesses.

-- Outreach and referral. Most state governments are actively involved in industrial development, and in this capacity they provide an array of services and support for firms that are planning to locate new facilities in the state, or expand existing plants. These contacts can be a valuable source of referrals to county technical assistance programs for small businesses, and they involve changes in business operations that may make it easy to incorporate pollution prevention in new facilities.
-- Regulatory enforcement. State regulatory agencies, especially those responsible for health, safety, and environmental enforcement, play a key role in establishing the incentives necessary to make pollution prevention programs effective. Unless there is a "level playing field," based on widespread compliance with regulatory requirements, small businesses will have a powerful economic disincentive for pollution prevention. Nonenforcement of environmental standards applicable to small businesses, or explicit exemption of small firms or generators from regulatory requirements, can make expenditures for pollution prevention competitively damaging, and deter small businesses from using available technologies. Fair and effective enforcement of reasonable environmental regulations makes pollution prevention an economically attractive alternative to the status quo.

-- Regulatory integration. State authorities can also support county pollution prevention activities by incorporating pollution prevention more extensively and explicitly into their regulatory systems. Rules, permits, consent orders, and penalty and mitigation decisions could all incorporate pollution prevention requirements, and thereby induce some of the more recalcitrant or incompetent small businesses to participate in county pollution prevention programs.

-- Risk market integration. Private-sector industries that deal in environmental risk, such as insurers and commercial lenders, can play an important role in creating incentives for pollution prevention, if their rate structures provide benefits to firms with good pollution prevention programs. Informational activities and development of pilot programs could help make pollution prevention a significant factor in these risk markets. Because most of these industries operate across multiple counties, state-level support and encouragement are necessary to integrate pollution prevention into risk markets.

-- Financial support for county and local government programs. Many of the benefits of pollution prevention extend downstream and downwind beyond the boundaries of counties and local governments. Thus, the state and federal governments have a stake in supporting county pollution prevention programs. In addition, states have access to additional sources of funding, ranging from a more flexible tax base to targeted federal funds such as the Small Business Assistance program under the Clean Air Act Amendments of 1990. Because many pollution prevention activities can be carried out more efficiently and effectively at the county level, states should incorporate county programs in the delivery of pollution prevention services.

IV. THE FEDERAL GOVERNMENT

Pollution prevention began as a predominantly federal initiative, and the federal government remains the dominant actor in the field. More recently, the states have become active partners with the federal government in designing and implementing pollution
prevention programs. Perhaps because these early pollution prevention programs have focused predominantly on large firms and major generators, the roles of county and local governments have remained largely undefined, or nonexistent. Taking the next step in pollution prevention, however, will require a more active partnership across all levels of government, because small and medium-sized businesses are a large part of the problems, and these sources can be reached most effectively at the local level. The federal government should undertake four initiatives to make county and local governments more effective members of the pollution prevention team:

-- **Recognition and definition of the role of county and local governments.** Although county and local government participation in pollution prevention has been fairly limited, enough experience has accumulated to support systematic exploration of the possible roles these governments can play in delivering pollution prevention services. Comparative evaluation of existing programs, and experimentation with different approaches to pollution prevention at the grassroots, could help to define the most appropriate roles in different levels of government in preventing pollution.

-- **Regulatory integration.** As in the case of state governments, the federal government can reinforce the efforts of local pollution prevention programs by integrating pollution prevention concepts and requirements more pervasively in all aspects of federal regulatory programs. Since federal program requirements often dictate the content of state environmental regulations, federal leadership in this field is crucial. When integrating pollution prevention into federal regulatory requirements, federal officials should be aware of the special needs and difficulties of adapting pollution prevention for small businesses, and should consult with county and local pollution prevention staff whenever feasible.

-- **Risk market integration.** Some private enterprises dealing in markets that affect environmental risk, such as insurers and commercial lenders, have national or multi-state operations and thus may be beyond the reach of state governments. The federal government should explore with these enterprises the possibility of adjusting rate structures to create incentives for pollution prevention.

-- **Financial support for county and local government programs.** If counties and other units of local governments are to become full partners in the delivery of pollution prevention services, they will need more equal access to program funding. At present, only states are eligible for most of the existing pollution prevention funding. While some local pollution prevention initiatives, such as Erie County's have succeeded in securing state backing, it is an unfortunate fact of life in local government that mandates flow downward more freely than resources. Federal funding standards and formulas should be adjusted to provide significant dedicated assistance to county and local pollution prevention programs.
I. INTRODUCTION

Erie County's Pollution Prevention Program for Small Quantity Generators of Hazardous Waste has evolved as a dynamic program, responding to increasing knowledge of the needs of its client population and to the County's early experience in utilizing a variety of techniques to reach that population. During this initial implementation stage, the Erie County Office of Pollution Prevention has begun to develop a set of practical incentives that will not only introduce target firms to the concepts and techniques of pollution prevention, but will also encourage them to institutionalize and upgrade their prevention programs over time. Several basic principles are guiding the ongoing development of incentives in the Erie County program:

1. **Within the firm, pollution prevention generally progresses through discrete stages that may require different packages of incentives.** Companies seeking to reduce their generation of pollutants typically begin with simple housekeeping improvements, then progress to more difficult and expensive changes such as materials substitution, process modifications, and retrofitting or replacement of capital equipment.¹ Each stage of this progression may require different incentives. For example, industries that require costly changes in capital equipment to reduce

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pollution need incentives that can affect their investment decisions when they are planning to acquire a new plant or purchase equipment.

- **Small businesses are extremely diverse in their abilities to use and generate information relating to pollution prevention, and in their understanding and acceptance of environmental protection.** While most large companies have made significant changes in their business practices to accommodate the recent growth of environmental concern and regulation, the picture among small businesses is decidedly more mixed. Some of the firms involved in Erie County's Pollution Prevention Program have taken a leadership role in moving beyond existing regulatory requirements, while other small hazardous waste generators in the region have remained largely untouched by the expansion of environmental regulation. In order to reach small and medium-sized businesses effectively, pollution prevention incentives have to be flexible enough to accommodate firms with widely varying environmental sophistication and institutional competence.

- **Because small businesses are especially sensitive to the**

2. Small businesses may be "untouched" in two senses of the term: either by falling within statutory or regulatory exemptions based on the small amounts of regulated materials they use or release, or by being too low in priority or visibility for responsible environmental agencies to bring them into permitting and reporting systems. In several instances, staff of the Erie County Pollution Prevention Program have dealt with small businesses that should have had an air or water discharge permit, but had not filed the necessary application. By encouraging and assisting these firms to obtain the necessary permits, a pollution prevention program for small businesses can increase the effectiveness of regulatory programs.
impacts of coercive regulation, and because negative incentives are very difficult to apply to small enterprises, incentives for pollution prevention should, to the maximum extent possible, be based on positive inducements for voluntary participation. The small business representatives on Erie County's advisory committees were united in the opinion that recent changes in regulatory standards and in civil and criminal liability, along with the resulting escalation in costs of waste handling and disposal, have created ample negative incentives for firms to minimize the amounts of waste they generate. Small businesses already have a very difficult time coping with this legal environment, and additional use of coercion or negative incentives would probably add little to the pressures they are already feeling. Instead, it might simply inspire resentment and resistance. In addition, the allocation of powers and responsibilities across levels of government makes it difficult for local governments like Erie County to apply negative incentives effectively.

- Wherever possible, pollution prevention incentives should be structured into the private market. While government can play a crucial role in making pollution prevention technologies and techniques available to small businesses, long-term success in changing behavior throughout this large and dispersed population will require that private markets send price signals supporting pollution prevention activities.

In developing an incentive package based on these principles, Erie County has found it useful to consider four separate
program elements. It has become customary to divide pollution prevention programs into the broad categories of technical assistance or know how transfer, and regulatory integration or incorporation of pollution prevention into permits, consent orders, and other regulatory requirements. The Erie County program incorporates elements of both technical assistance and regulatory integration, but also adds one preceding stage, outreach, and one following stage, market integration. By building its program upon these four program elements, Erie County has been able to design a package of incentives with sufficient power and flexibility to reach a small business audience.

3. EPA's Pollution Prevention Strategy, 56 Fed. Reg. 7849 (Feb. 26, 1991) combines "outreach" with "training" in its discussion of the need to achieve cultural changes: "... EPA will be seeking to lay the groundwork for a pollution prevention orientation within government, industry, academic institutions, the public and internationally through a variety of outreach and educational initiatives. These include EPA's Pollution Prevention Information Clearinghouse, various technical and non-technical resources, including 'Pollution Prevention News', booklets on industrial pollution prevention techniques, and video presentations on pollution prevention, and the development of curriculum materials on pollution prevention for kindergarten through university levels."

While these broad efforts to change the "culture of the corporation" are consistent with the goals of the Erie County Pollution Prevention Program, the Erie County Program's outreach objectives at this stage are somewhat different. In contrast to the larger firms that are the primary target of EPA's strategy, the small businesses that are the clients of Erie County's program have often not been regulated or directly affected by environmental regulations to any significant degree. Thus, they must first be identified, and then brought into contact with the Pollution Prevention Program before any attempt can be made to change their behavior and attitudes through technical assistance or other incentives. Many of the Erie County outreach activities described below have been focused on this initial stage of identifying and contacting the target firms.
II. OUTREACH AND TARGETING

Both conceptually and practically, the essential prerequisites for any effective pollution prevention program are identifying and contacting target audiences. Erie County's Pollution Prevention Program for Small Quantity Generators of Hazardous Waste has several target audiences: business firms such as dry-cleaners and print shops; educational institutions using hazardous materials in their laboratories and other facilities; and governmental and private entities that may be in a position to affect the activities of the waste generators. Among these audiences, the small business firms are the most difficult to identify and contact.

The ideal situation would be to gain access to an existing data system that could provide current, accurate contact information (name, address, phone, names of officers and managers), along with basic data about the size of the enterprise, its lines of business, the kinds of materials the facility handles, and the amounts and types of pollutants it generates. An ideal outreach data base would also tell program staff when a particular firm was contemplating expansion, relocation, or replacement of equipment, so that program staff could try to influence investment decisions before they are made.

Not surprisingly, there is no available data system that comes close to meeting these ideal criteria. As a result, the Erie County Program staff have investigated and utilized a varie-
ty of tools to reach their target audiences during the initial implementation phase.

A. **Directories and News Reports.** Within the county, information about businesses in the targeted industries can be collected and updated from a variety of sources: general business directories such as the one published by the Greater Buffalo Chamber of Commerce; specialized business directories and listings such as the Department of Motor Vehicles' lists of registered repair shops; standard "yellow-pages" phone directories; and local business-oriented publications such as the local newspaper *Business First*. The Erie County program is using all of these types of data sources to maintain and expand its mailing lists for the pollution prevention program. These sources provide relatively little information other than name-and-address, and they become outdated fairly rapidly as businesses enter and exit the market. They may also omit some potential candidates for pollution prevention that are parts of enterprises in other lines of business, such as a vehicle repair shop operated by a government agency or a print shop in a bank headquarters; but at least these data sets establish a baseline for making contacts and measuring program progress.

B. **Existing Relationships and Training Programs.** The Erie County Department of Environment and Planning began its pollution prevention program with significant advantages in designing an outreach program. The County DEP is a highly visible local government entity, with a long track record in the field of
"compliance promotion"—working with local businesses to provide training and assistance for environmental compliance. This experience has given the County three major assets in launching the small business pollution prevention program: good name-and-address files in many relevant fields; the credibility that comes from having run successful programs over the years; and good working relationships with many leading firms and individuals in the local business community. In this respect, pollution prevention and regulatory compliance can build upon and reinforce one another.

These pre-existing relationships have provided many of the clients for the initial rounds of site visits and technical assistance recommendations made under the Erie County Pollution Prevention Program. In a new program of this nature, early success is particularly important, because the most effective, persuasive form of outreach is word-of-mouth communication among businesses. If word gets out that one print shop or auto body repair business has been able to save money while reducing pollution, others will want to follow in their footsteps. Participation can "snowball," spreading from firm to firm within a particular line of business.

Building upon existing relationships in this manner is a useful, low-cost technique for generating program clients, but it is not a sufficient approach, even in the early stages of program implementation. It reaches a relatively small proportion of the relevant businesses, and probably draws disproportionately from
those firms that are already most willing and able to conduct their businesses in an environmentally responsible manner.\(^4\)

Moreover, it does not necessarily bring program staff and clients together at the most productive time—when the firm is thinking seriously about making major changes in its operations. Thus, existing relationships need to be supplemented by other forms of outreach.

C. Trade Associations, Expositions, and Fairs. One of the most useful ways of contacting and informing representatives of target industries about the Erie County Pollution Prevention Program is through their existing trade and professional associations. Associations can reach a large proportion of potential client firms through their newsletters and other mailings, and presentations at association meetings provide the additional advantages of personal contact and the opportunity to respond to questions and concerns. Similarly, trade fairs and expositions create opportunities for making contact with potential clients and convincing them to become participants in the pollution prevention program. The Erie County program has devoted substantial effort to making representatives available at these kinds of events, and creating materials such as slide shows, displays, and handouts that will present the program in an attractive light.

\[^4\] For example, these responsible firms would most likely have already obtained any legally mandated environmental permits. If outreach is limited to these responsible firms, then the opportunity for the pollution prevention program to reinforce regulatory programs by encouraging dischargers to obtain required permits, discussed \textit{supra} note 2, would be lost.
Major trade associations in the target industries have been extremely helpful in providing opportunities and support for communication with their members. A listing of the trade associations which hosted presentations by the staff of the Erie County Office of Pollution Prevention is provided in Appendix A.

D. Newsletters, Fact Sheets, and Bulletins. Informational mailings of several kinds can be useful both to expand the lists of firms initially contacted, and to convert initial contacts into a request for a site visit. The Erie County program has used several vehicles of this nature in its outreach effort, including its own pollution prevention bulletins and stories describing the program's services descriptions in the newsletters of cooperating trade associations. The County's "Pollution Solutions" newsletter has proven to be a valuable method of supplying specific industry groups with information about waste reduction techniques. Samples of these materials are provided in Appendix B.

E. Application, Permitting, and Manifesting Records. Data systems maintained by other government agencies can be used to find firms that might not be identified through the other outreach techniques described above. These governmental data systems may often be more powerful than the general information systems described above, because many of them are either focused on relevant environmental performance variables such as amounts of specific pollutants emitted, or they are designed to provide public review of key investment decisions that might have pollu-
tion prevention significance. Some of them may also be useful for program evaluation purposes.

A variety of these governmental information systems have been evaluated or utilized during the initial implementation of the Erie County Pollution Prevention Program:

- **Hazardous Waste Manifests.** The "cradle-to-grave" tracking of hazardous wastes under the Resource Conservation and Recovery Act (RCRA), which is administered in New York by the State Department of Environmental Conservation, creates an elaborate data system based on written "manifests" for hazardous wastes that includes most of the hazardous waste moving through or within the state. This system does not cover firms that emit pollutants to air or water rather than handling them as hazardous wastes, and it does not include very small generators who are exempt from the manifest requirement; nevertheless, it could be a very useful resource for identifying and targeting firms that are promising clients for the pollution prevention program. It has not been utilized extensively for outreach during the early stages of program implementation primarily because it would be unduly cumbersome to use for this purpose. The difficulties of extracting relevant information from a very large data set, and the need to work out interagency access and resource agreements, make this information source impracticable to use in a demonstra-
tion program. 5

- Air Quality Permits. Air releases constitute one of the major pathways for environmental pollution from the firms targeted in the Erie County program, especially in those industries that are heavy users of organic solvents. 6 Unfortunately, the coverage of state-issued air quality permits seems fairly uneven, with a relatively small proportion of the firms targeted for the Erie County Pollution Prevention Program covered by current permits. This may be partly a result of nationwide delays in issuing air quality regulations for hazardous air pollutants (NESHAPs), and partly a result of state program priorities that allocated most available permitting and enforcement resources to large stationary sources. This emphasis may change under the Clean Air Act of 1990, as new regulations on hazardous organic air pollutants come into effect. The 1990 amendments extend regulation and permitting requirements to many small businesses

5. These problems would most likely be even greater in a state which did not computerize its hazardous waste manifests, as New York does. If pollution prevention programs for small businesses become more widespread, it may be worthwhile for EPA and the states to invest more resources into adapting these manifest systems so that they can more easily support local pollution prevention activities, since the manifests contain highly relevant information about the type and volume of waste generated. As in the case of permits, supra note 2, investments in support of pollution prevention may increase the effectiveness of traditional regulatory programs like RCRA, by providing a cross-check on the quality of data reported on manifests.

6. EPA's Pollution Prevention Strategy, 56 Fed. Reg. 7849 (Feb. 26, 1991), notes that most emissions of chlorinated solvents "come from a wide variety of largely unregulated activities such as dry cleaning, paint stripping, and degreasing operations"—all of which are target industries in the Erie County program.
that were previously unregulated. Thus, air permit application and compliance records may become a more useful source of outreach information in the future. When air permits are in force, they can provide extremely useful information about the kind and volume of pollutants being released, and the production processes and control technologies used by the firm. Section 507 of the Clean Air Act also requires state governments to establish technical and environmental assistance programs that will help small businesses comply with the new requirements. Small business pollution prevention programs like Erie County's would be a logical partner in this effort to reduce airborne emissions, because these locally operated programs have knowledge and contacts within the community that are difficult for state agencies to duplicate.

- **SPDES and Pretreatment Permits.** Target firms that discharge pollutants to water are required to have a permit. This may be either a State Pollution Discharge Elimination Program (SPDES) permit if they discharge directly to surface waters, or a pretreatment permit if they discharge into a publicly owned sewage treatment system.


8. See id. at 1, 24-27.

9. The roles of counties and other units of local government in pollution prevention is discussed more fully in Part VI of this report.
Unfortunately, these two kinds of discharges involve different permitting authorities, and therefore different data systems. SPDES permits are issued and updated by the regional office of the State Department of Environmental Conservation, while sewer hookups and pretreatment permits are administered by the local sewer authorities, subject to state and federal review. Within Erie County, publicly owned treatment plants range from large regional systems like the one operated by the Buffalo Sewer Authority (165 mgd capacity) to small local plants like the East Aurora Sewage Treatment Plant (2 mdg capacity). In addition, substantial parts of the rural and suburban portions of the county are served by septic systems rather than sewage treatment plants. Industrial dischargers to a septic system would be legally required to obtain a SPDES discharge permit from the State Department of Environmental Conservation, but it is possible that some small businesses have not complied with this requirement. Finally, new sets of regulatory requirements for stormwater discharge permits and for hazardous waste and chemical use reductions were being developed during the initial stages of the Erie County Pollution Prevention program, but had not yet been implemented.10

10. The chemical and hazardous waste reduction draft regulations are based on the amounts of chemical pollutants released or generated, on a sliding scale that extends coverage to smaller generators over a five-year period. Thus, firms discharging more than 25,000 lbs./year of toxic chemicals to surface waters in 1993 would be required to submit a "Water Toxic Chemical Reduction Plan"; by 1995, the requirement would apply to any firm
This fragmentation makes water discharge permits a difficult source to use for most outreach purposes. However, water permits are potentially quite useful to the pollution prevention program, for several reasons. Like air pollution permit records, water permit files provide fairly detailed information about processes and chemicals used at a particular facility, and regulatory personnel usually can provide additional insight into the opportunities that may exist for pollution prevention. Major changes in facility equipment or processes may trigger a permit amendment proceeding, which can provide an opportunity to review pollution prevention options as well.11

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discharging more than 12,000 lbs./year. Even with the lower thresholds, Thus, many small businesses may be exempted if these regulations are adopted as proposed. New York State Department of Environmental Conservation, Draft Part 378 Hazardous Waste Reduction Plan and Air/Water Toxic Chemical Reduction Plans section 378.4(c)(1)(iii)-(v) (Dec. 3, 1991). The State's draft stormwater discharge permit would cover "all new and existing point source discharges of storm water associated with industrial activity," with listed exceptions. New York State Department of Environmental Conservation Draft Permit Part I.B.1 (September 2, 1992). Dischargers covered by the permit would be required to file a Notice of Intent to Discharge (Part II), and to develop a Storm Water Pollution Prevention Plan (Part IV). It is not clear how many small businesses would be affected by this draft permit. 11. Unfortunately, budget difficulties within the State Department of Environmental Conservation are forcing a change in its permitting practices under the Clean Water Act that will make these permits less useful in targeting small businesses for pollution prevention activities. Under the Department's new Environmental Benefit Permit Strategy, each expiring permit will receive a numerical score reflecting the potential environmental benefit of reviewing the permit. A facility that receives a low score may not have its permit reviewed for an extended period of time. It is not clear whether or to what extent this new system
Surface and groundwater contamination is also a high priority in local pollution control efforts. Water resources are extremely important to the present and future economic development of the region, and major projects are underway to clean up polluted local waterways such as the Niagara and Buffalo Rivers. Preventing further contamination of these waterways is an important method of assuring that cleanups will be effective in restoring and protecting damaged ecosystems, and maintaining good water quality.

Because water discharge permits present these advantages, the water program is a logical contact point for identifying candidates for pollution prevention and providing them with technical assistance. However, water permits also have significant shortcomings from a pollution prevention perspective. Few of the small businesses targeted in the Erie County Pollution Prevention Program discharge directly to surface waters; instead, they discharge their wastewaters to public sewers, and thus come under the requirements of the industrial pretreatment programs operated through the publicly owned treatment works (POTWs) in

will serve to defer review of small businesses' SPDES permits, but it seems logical to assume that most agency attention in the permitting process will be focused on the largest polluters, which will often be the largest firms. See generally "DOW Re-works Process for Renewing SPDES Permits," 61 New York State Department of Environmental Conservation Water Bulletin 4-5 (September, 1992).

12. This approach has been developed in California; see generally Local Government Commission, Minimizing Hazardous Wastes: Regulatory Options for Local Governments (undated; publication of the
the region. Most of the POTWs in the project area are operated by independent authorities or units of local government, which serve as the primary permitting and enforcing units for industrial dischargers in their service areas. This makes coordination among permitting authorities more complex. In addition, budget shortages have limited the resources available to the permitting authorities, and forced them to concentrate their efforts on the larger dischargers.

As a result of these obstacles, the water permit program has not been a major area of emphasis during the initial stages of the Erie County Pollution Prevention Program. However, initial contacts have been made with the principal POTWs in the project area. The Erie County Office of Pollution Prevention has also begun to develop a training program for pretreatment inspectors, that will help them understand pollution prevention and the industry-specific options that exist for eliminating pollutants. The curriculum and training methodology developed in this pilot effort can easily be expanded to cover a large proportion of sewage treatment officials in the county, as additional funds become available. As the program evolves, it may be possible to incorporate pollution prevention for small businesses more fully.

Local Government Commission, Sacramento, California).

13. Erie County does operate POTWs directly, and in those cases coordination between the pollution prevention program and the industrial pretreatment program has been easy to achieve, since both programs are within subdivisions of the County Department of Environment and Planning and both share office space in the same building. However, county sewer districts service only a small proportion of the small businesses served by the pollution pre-
into the industrial pretreatment program.\textsuperscript{14}

- **SARA Title III/TRI/EPCRA.** Title III of the Superfund Amendments and Reauthorization Act of 1987 (SARA) provides another possible avenue for identifying and contacting potential client firms for the Erie County Pollution Prevention Program. Two programs created by this statute have been considered. The first, the Toxics Release Inventory (TRI), is the nation's basic data system for monitoring overall environmental performance. As its name implies, TRI records all environmental releases of more than 300 chemical pollutants from a particular facility, above a specified threshold, on an annual basis. Thus, TRI makes it easy to identify and prioritize firms which are likely clients for pollution prevention programs. The Inventory could also support at least rough performance evaluations (and therefore program evaluations) over time, and it will soon incorporate information about respondents' pollution prevention activities. It would be an enormously valuable resource for the Erie County program, if it covered a significant proportion of the target firms.

However, like most of the national regulatory and reporting programs, TRI focuses on the large sources; only a handful of the firms targeted by the Erie County program would have any data at all on the TRI. As EPA's Pollution Prevention Strategy noted,\textsuperscript{...Continued...}

14. If the pending reauthorization of the federal Clean Water Act results in statutory amendments requiring pollution prevention as part of the industrial pretreatment program, there may be addi-
TRI covers many small industrial firms, but "it does not cover small commercial enterprises, such as dry cleaners or garages, that make a significant contribution to environmental problems." In October of 1992, EPA proposed changes in the TRI reporting requirements that would create further exemptions for small sources and small businesses, which would further undermine the usefulness of the Inventory for programs like Erie County's.

The second program created by SARA is the Emergency Planning and Community Right-to-Know Act (EPCRA). This provision establishes a system of local emergency planning committees (LEPCs) that are charged with responsibility for compiling information about local firms that handle substantial quantities of dangerous chemicals, and also for developing plans to deal with spills, explosions, and other emergencies that might occur at these facilities. Since the LEPC for Erie County covers the same geographic area as the pollution prevention program, and operates under the aegis of another unit of county government, coordination with that program would be significantly easier than with most of the other programs described in this section. However, due to funding constraints and the relative newness of the program, Erie County's LEPC does not presently have the capacity to

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tional legal incentives to expand the program in this direction.


16. 57 Fed. Reg. 48706 (Oct. 27, 1992); Comment Sought by EPA on Exclusion for Small Business Reporting to TRI, 28 BNA Environment
generate large amounts of data that would be useful for outreach and targeting in the pollution prevention program. This appears to be a promising area for future program development, if adequate resources can be identified.

SEQRA Environmental Impact Review. New York's counterpart to the National Environmental Policy Act is the State Environmental Quality Review Act, commonly known as SEQRA. Like its federal counterpart, SEQRA requires preparation and distribution of an environmental impact statement (EIS) for projects requiring government funding or approval when the planned action is likely to have a significant adverse effect on the environment. Since SEQRA review takes place when major expansions, relocations, or modifications of industrial and commercial facilities are being proposed, it may be possible to use the SEQRA process both to identify potential clients for the pollution prevention program, and to inject pollution prevention considerations into investment decisions before they become final. Pollution prevention could be utilized as a mitigation strategy for significant impacts associated with a particular development project.

However, two constraints make SEQRA review less useful for this purpose than it might otherwise be. As a result of budget limitations, the Erie County Department of Environment and Planning has been forced to cut back its review of draft EISs and to focus only on projects that have major regional significance. ...Continued...


17. New York Environmental Conservation Law Article 8 (McKin-
This would exclude most of the activities of small businesses that are the targets of the local pollution prevention program. Neither the lead agencies for these smaller projects, which are predominately towns and villages, nor the organizations and individuals who submit comments on a draft EIS, are likely to have the capacity to raise pollution prevention alternatives during the drafting and reviews of an EIS. The county's most useful role in the EIS process may be to train the town and village officials who have the primary responsibility for enforcing the impact statement requirements, so that they will be alert to opportunities for incorporating pollution prevention into environmental reviews.

Even if the resource problems could be solved, SEQRA review would still reach only a small portion of the investment decisions that should be flagged for pollution prevention reviews. The environmental impacts of small businesses' failures to implement (or even to know about) pollution prevention alternatives are likely to be individually small, indirect, and low-visibility. Thus, projects that could benefit from consideration of pollution prevention alternatives may receive a "negative declaration" exempting them from the duty to prepare an EIS because the environmental impacts of the planned facility are not sufficiently large or concentrated to trigger the EIS requirement, or because the persons drafting and reviewing the threshold environmental assessment may not be aware of pollution prevention alternatives.
A possible solution to these resource problems is improved training of town and village planning officials. Since they initially receive and review applications for building permits, zoning variances, and other local approvals, these local planning officials could be an important source of information and referrals for the pollution prevention program. During the initial phase of the Erie County Pollution Prevention Program, training opportunities for local government officials have been developed. As the program matures, these "front-line" units of local government will play an increasingly important role in bringing potential clients into contact with the pollution prevention program. Local officials involved in land use and development can also play a more active role in creating incentives for pollution prevention. For example, a local government creating an industrial park could incorporate pollution prevention requirements into leases or deed covenants, and thereby make pollution prevention an affirmative legal duty for its client firms.

Business Names. Companies or partnerships doing business under an assumed name must file a certificate in the County Clerk's office, giving the names and addresses of the principals in the business. This can be a useful way to identify businesses that are just coming into existence or have recently begun doing business in the county. In either case, they may be developing new production processes and work practices, which would make them very attractive candidates for pollution prevention technical assistance.

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Staff from the pollution prevention program met with officials of the County Clerk's office to investigate the use of business names filings for outreach purposes. The coverage and content of the filings are significantly limited for purposes of identifying potential clients for the pollution prevention program. The business name lists exclude individuals operating businesses under their own names, and they contain relatively little information about the nature, scope, or organization of the applicant's business. As a result, the business names filings are at best "leads" that must be followed up to identify potential clients for the pollution prevention program.

o **Building Permits and Inspections.** When firms modify existing plant structures or begin to construct new facilities, they must obtain a local building permit and have on-site inspections to assure that the work being done complies with applicable codes. This also creates opportunities for a pollution prevention review, because the public review takes place before the new structures and processes are irrevocably fixed in place. While the system of building permits and inspections is decentralized to the local cities and towns, and therefore is rather difficult to coordinate, it has a high potential payoff for pollution prevention.

During the initial stage of implementation, the Erie County program has begun to investigate ways to incorporate pollution prevention into the building permitting and inspection system. The general approach being followed is training building inspec-
tors so that they will be alert to prevention opportunities in the industries targeted by the program, and knowledgeable about the kinds of services the county can provide. During the next phase of the pollution prevention program, the emphasis will be on expanding these training opportunities to reach a substantial proportion of the building inspectors in the project area, and developing ongoing communications between the inspectors and the pollution prevention staff.

Summary of the Erie County Outreach Approach. The foregoing programs and activities demonstrate that the Erie County Pollution Prevention Program has investigated a wide range of tools and strategies to reach its potential clients. No existing information system generates all of the data needed to support effective outreach for the pollution prevention program. Instead, it is necessary to work within the framework of many regulatory and service programs that serve other purposes, while trying to adapt them to meet the needs of the Erie County Pollution Prevention Program. This strategy is based upon forging partnerships with the persons and programs that are in frequent contact with the target firms, and informing these "leverage persons" about the nature and significance of pollution prevention. In other words, Erie County has developed a variation on "training the trainers," or more accurately training the key contact people who can identify potential clients and opportunities, and serve as the link between the pollution prevention program and its target firms.

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As the county's pollution prevention program matures and its focus shifts to firms which have not previously worked with the Department of Environment and Planning, reliance on these other programs as a source of potential clients can be expected to increase. By investigating them now, and developing pilot programs in the areas that seem most promising, the County is positioning itself to maintain and increase the momentum of its small business pollution prevention program. Moreover, bringing these intermediary persons and organizations into the process from the outset may be the best way to assure its long-term success. Pollution prevention will require changes in organizational cultures and accepted ways of doing business throughout the society. For those changes to take hold and become the norm, they need to be understood and reinforced by as many actors as possible. Educating and convincing the local leaders of business and government about the importance of pollution prevention may be the most effective way to make pollution prevention a way of life rather than just a program.

III. COMPLIANCE PROMOTION AND TECHNICAL ASSISTANCE

Erie County's pollution prevention program, like most others around the country, relies primarily on target firms' voluntary acceptance of technical assistance to achieve its goals. Information can be a valuable good, and the free provision of information about pollution control and prevention can serve as a subsidy or incentive that will induce firms to reduce their use or emission of toxic substances. However, merely providing information... Continued...
tion and training may not be sufficient to overcome barriers or disincentives to pollution prevention, especially among small businesses. The principal barriers can be divided into three categories: competence, capitalization, and competition.

**Competence of Target Firms.** Pollution prevention may require substantial changes in accepted ways of doing business, even if the prevention techniques in question amount to little more than "good housekeeping" in the plant or store, or better accounting for the purchases and uses of certain materials. With small businesses, the institutional capacity to make even these modest changes cannot be assumed. Many local enterprises are operated by people who lack both formal training and adequate experience in key aspects of business management. They are learning—and improvising—as they go, trying to keep a fragile enterprise afloat in a generally hostile competitive environment.

Managers who are in this position are not likely to welcome technical assistance on pollution prevention, or to use it effectively if they do accept it. Survival comes first, and until the firm achieves a minimum level of performance and stability, ...Continued...

ney's, 1984).

18. There may also be a few firms that could be considered "bad actors"—those headed by persons who either reject the legitimacy of environmental regulation on ideological grounds, or who violate regulatory requirements and community norms in order to increase their profits. Cf. Kagan and Scholz, *The Criminology of the Corporation* and *Regulatory Enforcement Strategies*, in K. Hawkins and J. Thomas, eds, *Enforcing Regulation* 67 (Kluwer-Nijhoff Publishing, 1984). As discussed in Part IV, coercive enforcement accompanied by regulatory integration—the imposition of mandatory pollution prevention requirements—may be necessary.
technical assistance is not likely to be effective. To reach these struggling firms, pollution prevention would have to be incorporated into a more general program of small business assistance designed to transform the target firms into more competent, successful competitors.\textsuperscript{19}

**Capitalization.** Many novel or emerging pollution prevention technologies require significant capital investment in new equipment or processes. In some instances, new structures may need to be built or existing physical plant modified to accommodate less polluting equipment. Frequently, however, small businesses are undercapitalized and unable to find reasonably priced financing for major equipment purchases or construction. In these situations, knowledge without the capital to implement needed improvements is fairly useless, at least in the short run. As discussed more fully below, a comprehensive package of pollution prevention incentives would include subsidy programs to overcome this cost

\textsuperscript{19} A similar point is made in ICF Consulting Associates, Inc., Economic Incentives for the Reduction of Hazardous Wastes (Final Report Prepared for the California Department of Health Services, Dec. 18, 1985), where the authors emphasize the importance of identifying specific barriers to pollution prevention, and tailoring incentives to reduce those barriers. It should also be noted that from a pollution prevention perspective, the management structures of small businesses can sometimes have advantages over the management structures of larger businesses. For example, large firms often separate production decisions from environmental decisions, while small businesses may not have enough management personnel to separate these functions. USEPA Pollution
barrier to pollution prevention.20

**Competition.** Firms that have sufficient competence and capital to adopt pollution prevention technologies may nevertheless be reluctant to use them, if they believe that they will suffer a significant competitive disadvantage as a result.21 Change is seldom risk-free, and especially during these recessionary times, many small businesses are operating on very tight profit margins. Before they commit themselves to major efforts in pollution prevention, they will have to have good answers to bottom-line questions such as the following: What will this change do to the quality of the product we produce? Will it interrupt or delay service to important customers? Will it increase our operating and maintenance costs, in either the short run or the long term? Even prevention technologies that have good overall "payback" prospects may be rejected if they carry

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21. In theory, pollution prevention could give firms a competitive advantage if they could profit from "green marketing"—advertising their environmental responsibility as a means of attracting customers. This possibility was explored during the early stages of the Erie County Pollution Prevention Program, but the business representatives on the advisory committee—who were among the most environmentally responsible local firms in their fields—did not see substantial business advantages in "green marketing," even if it was part of an effort sponsored by the Pollution Prevention Program. Consequently, this incentive was not incorporated into the Erie County program. If consumer awareness and "environmental shopping" increase in the future, however, it may be appropriate to re-examine this
too much competitive risk.

To a large extent, these barriers can be overcome through good communication between the pollution prevention program and its client population. By working closely with representatives of the target industry, program staff can understand in a very concrete, pragmatic way what technologies and techniques are best suited to their clientele. Based on this knowledge, program staff can focus their attention on approaches that client firms can actually use and implement, and avoid less practicable ideas. The network of industry advisory committees utilized in the Erie County Pollution Prevention Program has been extremely valuable in providing this kind of detailed feedback on client needs and capacities.

Even with good two-way communication and cooperation, however, it may still be necessary to create additional incentives to overcome institutional obstacles and make technical solutions attractive to the target firms. A possible alternative, or supplement, to voluntary compliance is the use of coercive laws or regulations to compel pollution prevention, which is often referred to as "regulatory integration."

IV. REGULATORY INTEGRATION

A. Theoretical Considerations As pollution prevention has gained prominence in recent years, the U.S. Environmental Protection Agency and other regulatory bodies have sought to incorporate pollution prevention requirements into rules, inspections, adjudications, consent orders, and other aspects of their regula-
tory programs. In theory, pollution prevention provides an opportunity to escape from some of the rigidities of coercive, command-and-control regulation.²²

Coercive regulation can be inefficient and counterproductive at both the rulemaking and enforcement stages of administration. Regulatory agencies are under continuing pressure to promulgate uniform, detailed rules, because clear rules can be useful both to the agency and to the regulated industry. Clear rules help assure that all regulated parties are treated equally and fairly, and they give the industry guidance as to the kinds of conduct that are permitted and prohibited. Rules can also insulate the agency from political attack, help central administrators maintain control over field-level personnel, and reinforce community norms defining responsible conduct.²³ As rules governing a particular field become more detailed, however, instances of inappropriate coverage or poor "fit" with real world problems begin

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issue.

²². Pollution taxes or user fees constitute another set of incentive-creating devices that could be used to induce firms to adopt pollution prevention measures. After preliminary consideration, it was determined that these kinds of negative incentives would not be useful to the Erie County Pollution Prevention Program. Most of the plausible changes in taxation or fee policy would require state and local legislative approval which, if forthcoming, would not be likely to happen during the term of the current demonstration project. In addition, such changes would be politically unpopular, would likely disrupt good working relationships with the target industries, and would place local firms at a competitive disadvantage.

²³. See, e.g., K. Davis, Discretionary Justice: A Preliminary Inquiry (1971); E. Bardach & R. Kagan, Going By the Book: The
to multiply. In economic terms, they may be either overinclusive (prohibiting harmless or even beneficial conduct) or underinclusive (inadvertently omitting conduct that should have been prohibited). Moreover, rules tend to focus on acts or conditions that are easy to detect through records and inspections and easy to prove in legal enforcement proceedings, such as the presence or absence of specified pollution control equipment. As a result, they may fail to address the organizational and behavioral aspects of regulated firms' performance—the extent to which the company makes environmental protection or worker safety a priority in all of its operations.

Command-and-control regulation may be subject to similar inefficiencies and rigidities at the enforcement stage. Detecting rule violations, determining reasons, fashioning an appropriate enforcement response, and securing a penalty or other legal remedy usually entails considerable cost and effort. In many fields of regulation, lack of enforcement resources forces regulators to address only the most serious, blatant violations. Even when coercive enforcement can be used, it may inspire future resistance rather than improved performance, if the enforcement


25. See, e.g., J. Mendeloff, Regulating Safety: An Economic and
agency is perceived as being rigid or unreasonable.26

Pollution prevention can avoid many of these problems, because it measures success by overall environmental performance (total releases of pollutants) rather than by design or input specifications. Prevention programs also consider all aspects of a plant's operation in trying to find ways to reduce emissions, and assesses prevention options in relation to the particular facility's capabilities. Finally, prevention tends to engage plant management and government regulators in a cooperative, problem-solving dialog, rather than in an adversarial conflict.

B. Practical Considerations. Despite the theoretical superiority of prevention to coercive regulation, it is clear that a workable pollution prevention program must be built on a foundation of strong enforcement. Small business representatives who participated in the advisory committees for the Erie County program pointed out that a major barrier to adoption of pollution prevention strategies in their firms was concern that investment in pollution prevention would put them at a competitive disadvantage compared to their rivals. In their view, many small businesses in the region operate outside the requirements of basic permitting and emissions control standards or, if they are in

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compliance, have to meet only rudimentary pollution abatement requirements. As a result, firms who take a leadership role in trying pollution prevention strategies may pay a penalty in the marketplace for being environmentally responsible.

It is difficult to know exactly how much of this perception may be based on fact. There is no question that enforcement agencies have been forced to devote the great bulk of their limited resources to large generators, and that as a result smaller firms can slip through the cracks. Regardless of the reality of the situation, however, the fact that responsible small businesses feel they will be put at a competitive disadvantage if they try to reduce their emissions creates a problem for the program.

Current allocations of responsibility for enforcing environmental regulations make it difficult for local government units to address this concern effectively. Erie County once had a prominent role in enforcing air and water quality regulations, but those functions were largely taken over by state and federal agencies in the 1970s. Some observers believe that local governments will have to play a larger role in environmental enforcement in the future, because the expansion of environmental regulation—and especially its extension to include large numbers of small businesses—is making it impossible for state and federal agencies to enforce the law effectively.27 For the present, ...

however, the primary enforcement responsibility lies with the federal and state governments.

Within this overall allocation of responsibilities, there are several things that local governments like Erie County can do. Although the authority is largely dormant, the County does retain significant regulatory powers in the environmental field. Under the Erie County Charter, the Commissioner of the Department of Environment and Planning has the power to "promulgate, administer, enforce, and amend a county environmental code." Under the existing County Environmental Code, the Commissioner has broad authority to approve permits and issue certificates of occupancy for facilities that affect air quality, and to require that regulated firms submit data to the Department. If necessary, this authority could be used to create and enforce regulatory requirements for small-quantity generators covered by the pollution prevention program. Without additional resources, however, it would be extremely difficult for the Department to mount a significant enforcement effort. Putting the County into the role of environmental enforcer would also undermine one of the strongest selling points for the pollution prevention program, the fact


28. Erie County Charter, section 902 c. Before issuing rules, the Commissioner must hold a public hearing, and submit a copy of the proposed rules to the County Legislature. The Legislature may require a second public hearing on the proposal. Id. at section 903.

that the County is dealing with participants in a non-regulatory setting.31

In light of these difficulties, the County has opted to work within the structure of existing enforcement responsibilities during the initial phases of the pollution prevention program. At present, the County is making its prevention program, and its willingness to cooperate, known to those who are actively engaged in environmental enforcement: the State Department of Environmental Conservation, local building inspectors, and private organizations that institute citizen environmental enforcement suits, such as the Atlantic States Legal Foundation. In this manner, pollution prevention planning requirements may be written into consent settlements or adjudicated orders, and inspectors may refer problems to the County before they grow into full-scale enforcement problems. If this is not sufficient to overcome the competition-based resistance to pollution prevention, then regulatory integration alternatives like amendment of the County Environmental Code will have to be considered.

V. MARKET INTEGRATION

A. Theoretical Considerations: Risk Markets and Pollution Prevention. As the preceding discussion indicates, both techni-

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30. Id. at p. 46, Rule 7.1.

31. To the extent that Erie County enforcement put local firms at a competitive disadvantage compared to their rivals outside the county, they would also have an economic incentive to resist
cal assistance and regulatory integration have significant shortcomings from the standpoint of a local government like Erie County that is trying to create an appropriate mix of incentives to induce small business participation in its pollution prevention program. To fill this gap, a third category of techniques needs to be developed, which might be called "market integration." That is, existing market forces could be harnessed or strengthened to create effective incentives for pollution prevention among the target population. This general class of economic incentives for pollution prevention will be referred to as "risk markets."

For most people, the concept of a "risk market" may be unfamiliar, since risk is not something we routinely buy and sell.\textsuperscript{32} However, many kinds of business transactions do deal with risks in some fashion, and this creates opportunities to use and improve risk markets in order to foster pollution prevention.

The logic of risk markets can be illustrated by an example from the field of insurance, where buyers and sellers explicitly contract to allocate risks. An insurance contract is basically an agreement to define and share the risk that a specified unde-

\textsuperscript{32} At least, we do not consciously trade in risk. However, many purchase decisions involve some tradeoffs affecting risks. For example, buying a smaller car that may be less crashworthy than a large one, or a cheap toaster that may be more likely to cause electric shock than an expensive one, may be regarded as a decision to purchase a degree of risk. See generally P. Huber, The Market for Risk, Regulation, March/April 1984, p. 33; J. Morrall, A Review of the Record, Regulation, November/December 1986, p. 33;
sirable consequence, such as a fire in business premises, will occur. The risk that any given insured will suffer a financial loss is effectively spread among those who purchase insurance, through the payment of premiums. For present purposes, the key feature of risk markets like insurance is that they can not only spread risks, they can also create incentives to avoid or prevent risks, if the premium structure is designed appropriately.

In the case of fire insurance, for example, the insurer could offer coverage to businesses in Erie County at a flat rate (say, $10 a year for every $10,000 of coverage). This would achieve the maximum degree of risk-spreading, since all would be contributing equally to the fund that would be used to reimburse those who suffer losses. But common sense and experience indicate that not all businesses have an equal risk of suffering fire losses.

The market can respond to differences in risk, if sufficient information is available. High-risk or low-risk firms can be identified, and premium schedules adjusted to reflect different categories of risk of loss. Risk categories may be established on the basis of the individual insured's experience (firms that make no claims over a period of years can be given discounts), or on the basis of professional judgment from industry experience as a whole (a firm that handles large amounts of highly flammable substances may have to pay a higher premium for equivalent coverage than one which doesn't, while a firm that has installed an automatic sprinkler system may receive a discount). These kinds
of premium differentials can create an incentive for risk reduction.33 A company learning about insurance discounts for sprinkler systems, for example, may decide to have one installed when the firm's management calculates that the savings in insurance premiums will pay back the cost of installation in a reasonably short time.34

Normally, market forces will indicate whether insurers should make these kinds of distinctions. If insurance companies can sufficiently improve their loss experience, or increase the marketability of their policies, then it becomes cost-effective for them to establish different risk and premium categories. The cost of gathering and processing the additional information necessary to establish an additional premium category like "insureds with automatic sprinkler systems" is less than the additional revenues and/or savings, and so it is efficient to set different premiums for firms that satisfy the condition.

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33. Technically, creation of more refined risk and premium categories could be regarded as termination of a subsidy from low-risk to high-risk insureds. Under a flat rate system, low risk firms pay more than they should for coverage, while high risk firms get a windfall because their premiums do not fully cover expected losses. While it may be socially desirable to provide the greater risk-spreading of broad premium categories in some situations, this spreading or sharing of risks will inevitably dilute the deterrent effects or precautionary incentives of high-risk firms to some extent. At the same time, it may create a reciprocal inefficiency, by giving the low-risk firms incentives to take precautions that are not cost-justified. See generally G. Calabresi, The Costs of Accidents: A Legal and Economic Analysis (Yale University Press, 1970).

34. The example is developed in more detail in K. Abraham, Distributing Risk: Insurance, Legal Theory, and Public Policy 11-12
Sometimes, government policies and activities affect these market-driven risk categories, either directly or indirectly. Direct intervention may be positive or negative, in the sense that the program is designed to encourage or discourage particular actions. An example of positive intervention is the federal government’s role in helping to underwrite potential losses from accidents involving nuclear power plants, as a means of fostering development of nuclear energy. On the other hand, governments may prohibit health and life insurers from creating different premium categories based on race or gender, even though actuarial experience supports such a distinction, out of concern that such differentials could legitimize discrimination.

While these types of direct governmental interventions in risk markets are significant, programs that government operates for other purposes can also affect risk markets. One of the principal ways in which government affects risk markets indirectly is by generating information that can be used by insurers or other risk market participants in establishing and policing risk categories. To return to the example of fire insurance, a local government might enact a fire code, conduct inspections, and cite violations for the purpose of protecting its citizens; yet, this program could make it possible for insurers to learn about risks without sending their own inspectors into the same buildings. Thus, a firm cited by local fire inspectors for multiple code violations might find itself put in a higher risk (and premium) category, or even have its policy cancelled, if the insurance...
company could easily get information about citations from the fire inspectors.

More broadly, then, government can affect risk markets either directly as a regulator or participant in those markets, or indirectly as a provider of information that will be useful to private risk managers. As discussed below, both techniques may be useful in creating and sustaining a local program of pollution prevention for small generators. Two categories of risk markets, business financing and insurance, seem to offer the best opportunities for creating pollution prevention incentives.

B. Risk Markets: Practical Considerations.

1. Business financing. The responsibility of banks and other financing institutions for cleaning up environmental pollution has become highly visible and controversial in recent years, as lenders have been caught up in the broad net of liability cast by the federal Superfund program. Courts have held that lenders who take over the property of a defaulted debtor through foreclosure, or who agree to help the borrower "work out" of a difficult repayment situation, may become liable for the full cost of site remediation if they have the capacity to influence operational decisions about waste disposal. Some financial institutions have been driven to the brink of insolvency, like the Montana bank that found itself facing a potential $10 million liability after it foreclosed on a parcel of land—a liability

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(Yale University Press, 1986).
nearly 20 times the original loan.\textsuperscript{36}

The Environmental Protection Agency has responded to the outcries from the financial community by drafting amendments to the National Contingency Plan under Superfund that will limit and clarify the liability of lenders who come into control of inactive hazardous waste sites.\textsuperscript{37} However, this rule is not likely to provide a complete solution to the problems of lender liability. Even within the federal superfund program, it cannot completely remove financial responsibility for cleanups from banks which become involved in the day-to-day operations of defaulted debtors; the statute makes clear that Congress intended active "operators" of superfund sites to be liable.\textsuperscript{38} Moreover, EPA's rule may not be able to block suits against the bank for contribution brought by other potentially responsible parties who are liable for cleanup costs.\textsuperscript{39}

\textsuperscript{35} The leading case is \textit{United States v. Fleet Factors Corp.}, 901 F.2d 1550 (11th Cir. 1990).


\textsuperscript{38} See \textit{Fleet Factors}, supra note 35.

\textsuperscript{39} The 1987 amendments to the Superfund law made it clear that responsible parties who are assessed for cleanup costs by the government may in turn bring an action for contribution against others who may have been liable for contaminating the site. By making its lender liability rule part of the National Contingency Plan, EPA evidently hoped that it would also be relied upon by
In any event, federal Superfund liability is only a part—and perhaps not the most important part—of lenders' legal exposure resulting from borrowers' environmental violations. Most of the industrial states, including New York, have their own superfund programs which cover the great majority of the identified toxic waste sites, and the federal rules would not necessarily affect lender liability under state law. Moreover, individuals who suffer personal injury or property damage as a result of a company's careless handling of hazardous materials could bring a toxic tort or nuisance action against the lending institution under state statutory or common law. Once again, the principles of lender liability established in the EPA rules would not provide effective legal immunity against such suits; rather, the lender's obligations would be assessed under applicable state law.

For these reasons, lending institutions will probably not make significant changes in the procedures they have established to minimize environmental liability.40

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the courts in assessing third-party claims for damages or contribution. Mitchell, Lender Liability: EPA's Final Rule, New York Law Journal, May 27, 1992, p.3. However, other legal observers have expressed doubt as to whether EPA rules could significantly affect the scope of the statutory right to contribution. Lender Liability Issues Attract Attention at Annual American Bar Association Meeting, 22 BNA Env. Rptr. 1148 (Aug. 23, 1991).

40. It should be noted that direct lender liability is not the only concern facing a bank when it considers making a loan to an environmentally risky business. If the borrower fails to obtain
It has become clear to them that even small businesses handling modest amounts of hazardous materials can incur large liabilities, as in the case of the firm that improperly disposed of a single drum of the dry cleaning solvent perchloroethylene and contaminated an aquifer, leading to a cleanup that cost more than a million dollars. To protect themselves against these kinds of risk, banks have refused to make loans to industries that are especially high risks for environmental liability, or have "redlined" areas where contamination is suspected and refused to make any loans there, or required extremely detailed (and costly) assessments of environmental conditions before making a loan commitment.

These liability concerns are apparently having an especially severe impact on small businesses, because they may be effectively excluded from commercial lending markets and have few other options for obtaining needed financing. Congressman LaFalce has testified on this issue in congressional hearings on lender liability:

[T]housands of well-run, credit-worthy small businesses which can offer only their facility or property as collateral cannot obtain the financing they need to survive.

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environmental permits, or is enjoined from operating or assessed monetary penalties because of noncompliance with environmental regulations, it may default on the loan. Likewise, contamination of property may impair its value as collateral, or subject it to a "superlien" for cleanup costs that takes precedence over all other security interests. New York Real Property Service sec. 35.18.1 (1987).
...[T]his problem surfaced ... in Western New York, at the Rochester Outer Loop Industrial Park. It is a large industrial park which has existed since the early 1970s. Recently, it was suspected that the land beneath the park may be contaminated, since the site was used as a landfill before 1971. But recent investigations ... failed to find evidence of serious contamination. Nevertheless, over the past few years, the small businesses located within the Park have not been able to obtain financing from any lender, up to and including the state of New York and the Small Business Administration .... Without financing, the businesses in the park will not survive.

I have heard similar accounts from companies in other industries and geographic areas. Drycleaners, transshippers, electric platers, wood product manufacturers, metal finishers, and other businesses that use hazardous materials ... often have difficulty obtaining a loan secured by their facilities.42

Pollution prevention programs like Erie County's could play a useful role in helping to reduce this credit crunch for small businesses, while at the same time creating an incentive for affected firms to improve their environmental performance. Pollution prevention would not have much effect on liabilities associated with past dumping similar to those described by Congressman LaFalce; but prevention may have considerable relevance in assessing a firm's future vulnerability to environmental liabilities.

A small business that has participated in the Erie County ---------------

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42. Testimony of John J, LaFalce, Chairman of the House Small
Pollution Prevention Program should, if all other things are equal, be a significantly better environmental risk than one that has not. The firm has gotten highly competent expert advice on a variety of steps it could take to minimize the risks of environmental contamination, and it has had an independent outside evaluation of its overall environmental performance. In essence, it has had a free, objective environmental audit, and it has presumably demonstrated its willingness to act upon the advice it has received. This could make the firm eligible for preferential treatment in a loan transaction, such as a discount in the prevailing loan rate, since the lender's exposure to liability is correspondingly less.

If such preferential rates could be made available to participating firms, it could make a great difference in their willingness to make expenditures for pollution prevention technologies. A brief example, based on plausible cost estimates from experience in the Erie County program, illustrates how a few percentage points' variance in interest rates can affect the decision to install pollution prevention equipment.

In auto body shops, distillation units to recycle solvents used in thinning paints and cleaning spray guns can be purchased for approximately $2,500 to $5,000. Some rough calculations show that the cost of acquiring these units is less than the $100 per month cost of contracting with a commercial waste handling firm to pick up spent solvents and dispose of them, if the cost is financed at a simple interest rate of 5 percent over five

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<td>Total</td>
</tr>
<tr>
<td>Year 1</td>
<td>500</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,250</strong></td>
<td><strong>1,200</strong></td>
</tr>
<tr>
<td>Year 2</td>
<td>500</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,200</strong></td>
<td><strong>1,200</strong></td>
</tr>
<tr>
<td>Year 3</td>
<td>500</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,150</strong></td>
<td><strong>1,200</strong></td>
</tr>
<tr>
<td>Year 4</td>
<td>500</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,100</strong></td>
<td><strong>1,200</strong></td>
</tr>
<tr>
<td>Year 5</td>
<td>500</td>
<td>1,000</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,050</strong></td>
<td><strong>1,200</strong></td>
</tr>
</tbody>
</table>

**Grand Total**

2,875 5,750 6,000

Of course, in reality the actual cost comparison would be affected by factors such as materials and operating costs, tax incentives such as depreciation deductions, and interest compounding that are omitted from the above calculation. The assumption that commercial disposal costs will remain constant for five years also is somewhat implausible, given the changing regulatory requirements and market structure in that industry. Nevertheless...

...Continued...
less, the table does suggest that the "bottom line" for pollution prevention in this line of business is at least competitive with the no-prevention alternative, and perhaps much more attractive.

To examine the sensitivity of the prevention alternative to interest rates, a medium-priced distillation unit of $4,000 was costed out, using the above assumptions and varying interest rates:

<table>
<thead>
<tr>
<th>Year</th>
<th>5% Rate</th>
<th>8% Rate</th>
<th>10% Rate</th>
<th>15% Rate</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prin.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td>Int.</td>
<td>200</td>
<td>320</td>
<td>400</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>Tot.</td>
<td>1,000</td>
<td>1,120</td>
<td>1,200</td>
<td>1,400</td>
</tr>
<tr>
<td>Year 2</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>Int.</td>
<td>160</td>
<td>256</td>
<td>320</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td>Tot.</td>
<td>960</td>
<td>1,056</td>
<td>1,120</td>
<td>1,280</td>
</tr>
<tr>
<td>Year 3</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>Int.</td>
<td>120</td>
<td>192</td>
<td>240</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>Tot.</td>
<td>920</td>
<td>992</td>
<td>1,040</td>
<td>1,60</td>
</tr>
<tr>
<td>Year 4</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>Int.</td>
<td>80</td>
<td>128</td>
<td>160</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>Tot.</td>
<td>880</td>
<td>928</td>
<td>960</td>
<td>1,040</td>
</tr>
<tr>
<td>Year 5</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>Int.</td>
<td>40</td>
<td>64</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Tot.</td>
<td>840</td>
<td>864</td>
<td>880</td>
<td>920</td>
</tr>
<tr>
<td>Grand</td>
<td>Total 4,600</td>
<td>4,960</td>
<td>5,200</td>
<td>5,800</td>
<td></td>
</tr>
</tbody>
</table>

...Continued...
Under these conditions, changes in the interest rate can significantly affect the attractiveness of prevention technologies, both in the aggregate costs and during the crucial early years. This suggests that attempts to alter the structure of risk markets may be a feasible strategy in some situations involving small businesses in Erie County.

On the other hand, there are situations in which the cost of pollution prevention equipment may be so high in relation to the resources of the target firms that modest changes in market interest rates will offer little or no inducement to make the investment. Among Erie County businesses, some medium-sized dry cleaning operations that use a "wet transfer" system seem to be in this situation. These firms use separate washers and dryers, so that clothing saturated with cleaning solvents must be transferred by hand from washer to dryer. In the process, toxic pollutants are volatized, exposing workers and the environment. These emissions could be reduced dramatically by replacing the separate machines with a single dry-to-dry unvented machine with a built-in distillation unit. However, the non-polluting machines cost approximately $50,000 each, and they reduce productivity. When firms face such large capital costs, and possible competitive disadvantage as well, it is doubtful that any feasible change in interest or insurance rates would induce them to purchase new machines before the old ones wear out.

There are also practical problems in trying to implement differential loan rates at the local level. Most of the private...
commercial lending institutions in Western New York are parts of large regional or national corporations. Rates are fixed, and transactions standardized, at the headquarters rather than the branch level. Advertising, along with price competition through communication links like the computers found in most real estate offices, is based on standardization of rates and terms. It is not commercially practicable to vary the standard loan terms for an experimental local initiative like the Erie County Pollution Prevention Program. As pollution prevention programs spread through the region, however, commercial lenders may become more receptive to the concept—especially if the state and federal governments can give them some encouragement and support in recognizing firms that are making an exemplary effort to prevent pollution.

As a first step toward developing and piloting such a program, Erie County has begun working with local industrial development authorities (IDAs) to explore the technical aspects of incorporating pollution prevention into commercial loan transactions. There are several IDAs operating within the county, ranging from the regional Western New York Economic Development Corporation (WNYEDC) and the Erie County Industrial Development Authority (ECIDA), to municipal entities like the Buffalo Development Corporations or the Amherst and Hamburg IDAs. Each of these authorities administers a package of programs that vary in their details, but have several features in common that may fit the objectives of the pollution prevention program.

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The IDAs' primary mission is to create jobs; thus, the projects they support generally are in manufacturing or warehousing rather than in retailing. This brings them into frequent contact with firms that are likely candidates for pollution prevention activities. By virtue of their experience in working with firms and steering them through the regulatory and financing mazes, the IDAs have developed sophisticated outreach programs and referral networks. It would be a relatively simple matter to incorporate pollution prevention referrals into their existing program. Moreover, the IDAs deal with companies at a time when the firms are planning to expand or relocate--ideal times for them to consider pollution prevention. The most common type of economic assistance that the IDAs provide to small businesses takes the form of a sale-and-leaseback that relieves the firm of some property and sales taxes--but also makes the IDA a potentially responsible party for future superfund liability. This gives the IDAs a built-in incentive to help improve the firm's environmental performance. Finally, as local public authorities, the IDAs are relatively free of many of the pressures that commercial lenders have.43

In light of these potential advantages, the Erie County

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43. In most IDA transactions, however, the actual capital comes from a private lender, with the IDA as titular "owner" of the facility passing along part of its tax exemption to the company it is assisting. Despite the legal form of the transaction, the
Pollution Prevention Program has initiated discussions with several of the local IDAs to explore the possibilities of cooperative activities relating to pollution prevention. While the IDAs have their own constraints and program priorities, these exploratory efforts should at least provide an additional source of referrals of potential client firms for the pollution prevention program. Over time, as the participating agencies become more familiar with each others' operations, additional opportunities for cooperation may arise. Ultimately, the IDAs may provide the vehicle for developing ways to incorporate pollution prevention into standardized loan transactions. They may also provide a vehicle for making grants to subsidize small business investments in pollution prevention equipment.

2. Environmental Liability Insurance. The explosion in environmental liability under Superfund and other laws has also had a profound effect on the insurance industry. Perhaps to a greater extent than lenders, insurance companies have a powerful market incentive to distinguish among firms that are good and bad environmental risks. Small businesses that have implemented pollution prevention measures should be less likely to make claims on their insurance than those who have not, and therefore might be good candidates for a discount on their premiums. Such a discount would, in turn, provide an incentive for firms to invest in pollution prevention.

While this linkage between pollution prevention and environmental liability insurance rates is theoretically appealing, it

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is pragmatically difficult to establish at this time. Pollution prevention programs are new entities, without an extensive track record. Thus it is difficult to predict in a statistical or actuarial sense exactly how participation in a pollution prevention program could be expected to affect the insured's future losses. In any event, this effect may be dwarfed by the uncertainty of applicable legal rules, and the recent escalation in environmental damage losses that have been passed on to insurers. The changing legal situation has led insurers to reduce their coverage, increase premiums, and modify the basic policies they write. Any potential savings resulting from the insured's participation in a pollution prevention program may well be too small to affect the basic terms of the policy. In any event, insurance rates are set on a national or regional basis, and regulated at the state level. This suggests that major changes in underwriting or rate-setting will have to take place above the local level. As pollution prevention spreads and encompasses a wider range of industries and regions, it may be appropriate for the federal and state governments to pursue this possibility.

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IDA has considerable leverage over the terms and conditions of the tax abatement, which in turn controls the effective interest rate for the project as a whole.


45. Id. at 423-24 (discussing shift from comprehensive general liability policies covering all "occurrences" or releases during the effective term of the policy, even if the harm did not become
VI. CONCLUSION AND RECOMMENDATIONS

Erie County's early experience in creating incentives for small businesses to participate in its pollution prevention program suggests that there is no single, simple approach that can achieve the desired results. Rather, it is necessary to pursue a variety of approaches, and to shift tactics as new problems and opportunities become apparent.

Ultimately, we are seeking through pollution prevention to modify the way that a substantial proportion of the American economy does business. Accomplishing that objective will take the combined efforts of all levels of government, and of the private sector as well, over an extended period of time. Initial implementation of the Erie County program has given rise to three general recommendations that can guide the future of this program, and others like it.

1. If a pollution prevention program for small businesses has a diverse, high quality outreach program, substantial numbers of firms can be induced to participate in a technical assistance program, even without further incentives. However, some firms or industries may need additional incentives to implement advice given through the pollution prevention program. Positive incentives are likely to be much more effective than negative incentives in reaching small businesses.

Discussion. During initial implementation of Erie County's program, sufficient requests for technical assistance were gener-

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ated to keep staff fully occupied, despite the fact that there were few formal incentives for participation, such as penalties for noncompliance or subsidies for pollution abatement. This high participation rate is primarily the result of two factors: Erie County already had good working relationships with many of the potential clients through its ongoing industrial assistance programs, and the pollution prevention program staff used a broad array of outreach strategies to inform potential clients of the services that were available. Industry also deserves considerable credit for the initial success of the program, both for the leadership provided by owners and managers serving on program advisory committees, and for the willingness of many small business executives to reduce pollution because they believe that it is the right thing to do.

At this time, it is not clear how many of the client firms will implement the advice and recommendations given them through the technical assistance program. However, it appears that some firms and industry sectors will have difficulties taking effective action to prevent pollution because of lack of capital, competitive pressures, or insufficient organizational competence. For these pollution sources, additional incentives may be needed to secure widespread implementation of pollution prevention.

2. EPA and the state governments can strengthen pollution prevention programs for small businesses by helping to develop risk market incentives targeted at these enterprises, and by providing technologies and information for technical assistance...Continued...
programs. Outreach and provision of technical assistance to small businesses can be performed most effectively at the local or regional level.

Discussion. Some aspects of an effective pollution prevention program for small businesses are effectively beyond the reach of counties and other regional or local units of government. For example, risk market incentives such as preferential rates on insurance, commercial loans, or real estate finance for firms participating in a pollution prevention program are effectively beyond the reach of local governments: the companies providing these financial services are organized to do business on a national, multistate, or statewide level, and it would not be cost-effective for them to customize transactions or rate structures to fit the availability of local pollution prevention programs. However, the states and the federal governments can address these problems on a broader geographic basis, and help to create the incentives that can make local programs more effective.

The states and the federal government also are best equipped to take the lead in developing new technologies for pollution prevention, and for making available to local programs the information needed to support technical assistance for small businesses. As in Erie County's program, local units of government can be partners in this effort, by helping to develop new technologies and test them in the field. However, the federal government is the logical leader in technology development be-
cause it is in the best position to marshal the human and financial resources necessary to develop new technologies, to coordinate state and local technology development efforts, and to realize the economies of scale involved in technology transfer.

However, the state and federal governments generally will not be as effective as local units of government in actually delivering technical assistance to small businesses. As discussed in the following section, local governments have inherent structural and functional advantages that equip them to deal effectively with small businesses. The most effective division of labor in the field of pollution prevention is for the state and federal governments to focus their direct efforts on the large generators, which frequently present technical issues that are beyond the competence of local governments, while working through local governments to reach small- and medium-sized firms.

3. Counties, large cities, and "metro" governments are best suited to conduct pollution prevention programs for small businesses as a result of their organizational position, mission, infrastructure, competence, and motivation. State and national pollution prevention programs should seek to empower these middle levels of government to serve as the focal point of small business outreach and technical assistance.

Discussion. Erie County's experience in designing and implementing its pollution prevention program has illuminated some of the advantages that a county government has in reaching and dealing with small businesses. These advantages fall into

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five categories:

1. **Organizational Position.** Urban counties, along with large cities like New York City or "metro" governments like Miami/Dade County, occupy a unique organizational position that enables them to serve as a link between the largest and smallest units of government. Unlike the state and national layers of government above them, the middle-level governments have both extensive local knowledge and a measure of credibility with potential client firms. At the same time, they generally have more resources and expertise, and a broader field of view, than the towns, villages, and single-purpose authorities that exist within their service areas. Because they occupy this strategic organizational niche, county governments are uniquely qualified to adapt national programs like pollution prevention to the diverse local conditions confronting small businesses.

2. **Mission.** County governments are also functionally suited to the tasks of identifying opportunities for pollution prevention, and convincing small businesses to implement them. County governments are primarily providers of services rather than regulators or enforcers of environmental regulations. This enables them to approach small businesses in a non-adversarial setting that is difficult for single-purpose environmental agencies to achieve. Moreover, one of the primary services provided by county governments is support for economic development, through industrial development authorities and related economic assistance activities. This function gives county government the

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dual advantages of knowing a lot about the local business climate, and also of coming into contact with firms at critical times when they are making decisions on expansion, remodeling, or relocation. Some counties have also taken responsibility for compliance promotion, working with local firms to help them come into compliance with environmental laws and regulations. Pollution prevention is a logical outgrowth of the economic development and compliance promotion missions.

3. Infrastructure. As a byproduct of their mission to foster economic development and promote compliance, many county governments have developed an organizational infrastructure that makes it relatively easy for them to incorporate the outreach and technical assistance functions of pollution prevention. Most county governments are located in the commercial center of the region, and they can easily call on other offices or agencies for support. Through regular contact with town and village officials, sewer districts, and the financial community, county officials often get early warning of development or expansion plans. They also have access to the people, programs, and equipment that make it possible to communicate effectively in a variety of settings. Many county government offices will be included on the mailing lists or have membership status on a variety of trade or professional associations that are valuable conduits to the small business community. Larger counties may also have their own newsletters, mailing lists, and contacts with news media to facilitate communications with potential client...Continued...
firms. Most importantly, county officials typically have networks of local contacts that include many of the leaders of the local business community. An outside agency or contractor might require months or years, and considerable financial resources, to achieve a comparable level of local knowledge and access to the clients.

4. **Competence.** Providing technical assistance on pollution prevention to small businesses requires what might be termed a middle range of technical expertise. For the most part, small business pollution prevention involves transfer and application of existing knowledge, rather than creation of novel, hand-crafted technical solutions. Much can be achieved by simply improving housekeeping or upgrading business practices. When equipment or process changes are called for, the necessary equipment can often be purchased "off the shelf" rather than custom made. The larger county governments have, or can attract, staff who can easily master the necessary technical information to conduct a pollution prevention program. Towns and villages may find it difficult to have their staffs master even this much technical information, however, because most of these grassroots officials have multiple duties and few opportunities for training. The most sensible allocation of functions is for the counties to train town and village officials so that they can recognize opportunities for pollution prevention among small businesses, and then refer the firms to the county program for technical assistance.

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5. **Motivation.** To achieve full effectiveness, pollution prevention programs for small business will need to remain in operation for a long time. Thus, it is important to give the responsibility for this part of the national effort to institutions that have the motivation and the accountability to make the program a success in the long run. Counties generally have this motivation, because the voters look to county government to provide both economic growth, and quality of life. Especially in the case of small business, both the costs and the benefits of pollution—and pollution prevention—are likely to be felt in the local community. Pollution prevention is thus a logical extension of the county's traditional responsibilities for planning and facilitating development, reviewing environmental impacts of development proposals, protecting parks and open space, conducting health programs, abating public nuisances, and building and maintaining infrastructure. Compared to other possible providers of technical assistance at the local level, such as consultants or educational institutions, counties are more likely to adopt pollution prevention as part of the normal package of services they routinely provide, even when "soft money" dwindles. In the long run, both the public and private sectors will need to adopt pollution prevention strategies as part of business-as-usual, rather than a special, short-term initiative.

In short, Erie County's pollution prevention program has made considerable progress in establishing the kinds of partnerships across levels of government, and between government and the

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private sector, that will be needed to make pollution prevention work well for small businesses.

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manifest until years later, to "claims made" policies that insure only against claims actually presented to the insurer during the policy period.